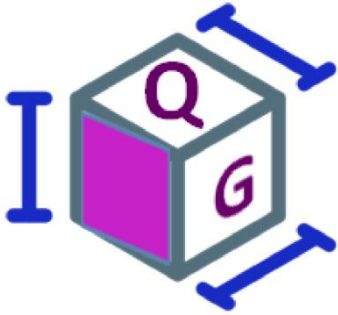


Volume Measurement Reader
VM200/ VM200BT

Quick Start Guide

V1.9

VM200 Quick Start Guide

1. The first time to use VM200

Device inspection and initialization

When a VM200/ VM200BT is been powered on, it will immediately beep **2** times quick **Be-Be-Be**, following it will **take about 5 seconds** to do the hardware inspection and system initialization, during this period its LED indicator will blink **Green**.

Once the **inspection and initialization** are successful, it will beep 1 time **Be-Be-Be** and turn off the **Green** LED.

You can start your work now !

If it is fail, the VM200 will keep the **Be-Be-Bi-Bi** beeping and to flash **Red** LED. You have to plug again or check.

Note: this manual is applicable to VM200 and VM200BT.

Data output

You have to connect to a data display tool to receive and display the dimension data transmitted from the VM200.

There are 3 selections,

(1) **VMView** tool (for **RS-232/USB Virtual com** setup, please note it is not applicable to **USB-HID** interface). or

(2) your own implemented application, or

(3) [for VM200 **USB-HID** interface] Windows **Notepad** or any tool can receive the keyboard input, or
[for VM200 **RS-232/USB Virtual com** setup] a RS232 terminal tool (e.g. **Terminal2010, Putty, teraterm, etc.**)

2. Set up the Device

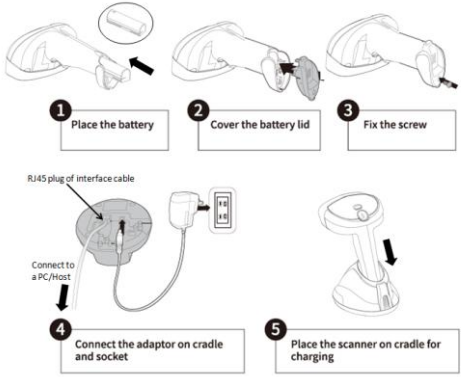
VM200 with USB Interface

1. Connect the Interface Cable(RJ45 end) to the VM200.
2. Connect the USB Interface cable to a PC/host.
3. Plug the power adaptor into the Power outlet.
4. Connect the power adaptor plug in the injector on the cable to power it on if required.
   Note: It won't necessary to do step 3 and 4 if the power supplied from the USB interface cable is sufficient to power on the VM200.

VM200 with RS-232 Interface

1. Connect the Interface cable(RJ45 end) to the VM200.
2. Connect the RS-232 Interface cable to a PC/host.
3. Plug the power adaptor into the Power outlet.
4. Connect the power adaptor plug in the injector on the RS232 cable to power it on.

VM200BT with USB/RS-232 Interface



3. Configurable Button Setting

VM200 consists of two buttons. One "**Trigger**" button **(A)** and another "**Touch**" button **(B)**.
The two buttons are configurable in one of 6 optional combinations to be best fit to your application.

No.	A Trigger	B Button
1 Scan per output		
1	barcode reading	VM Scan
2	VM scan	barcode reading
3	barcode reading	Switching (A) in between barcode and VM scan
<4>	**VM scan**	Switching (A) in between barcode and VM scan
2 scans per output		
5	Barcode first then VM scan	Redo scan
6	VM first then barcode scan	Redo scan

Note: VM is Volume measurement

The default buttons setting is <4>.

<4> Trigger (A) button is for measurement, to touch (B) button to switch (A) button function in between barcode reading or measurement.

<1> Trigger (A) button to read a barcode, touch (B) button to do measurement.
<2> Trigger (A) button to do measurement, touch (B) button to read a barcode.
<3> Trigger (A) button is for barcode reading, to touch (B) button to switch (A) button function in between measurement or barcode reading.
<5> Trigger (A) barcode scan first then VM scan, touch (B) button to redo the scan.
<6> Trigger (A) VM scan first then barcode scan, touch (B) button to redo the scan.

Button Behavior Setting

Note: **VM is Volume measurement,** 2D is barcode reading, **Switch** is to switch **(A)-button** in between VM and 2D barcode reading.

A:2D / B:VM

A:VM / B:2D

A:2D / B:Switch

<A:VM / B:Switch>

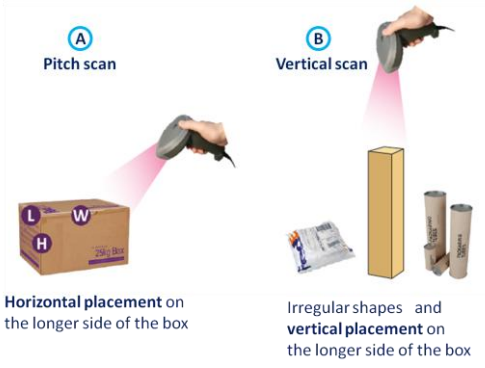
A:barcode then VM scan, B:redo scan

A:VM then barcode scan, B:redo scan

3. Reading Mode

There are 3 measuring ways,

- **Pitch scan**- Appropriate to scan a cuboid shape with **horizontal placement** on the longer side of this object.
- **Vertical scan**- Appropriate to measure an irregular shape and its dimension output is the minimum cuboid shape can cover this irregular object. Also appropriate to scan the cuboid shape with **vertical placement** on the longer side of this object.
- **Auto scan (Default) –** it will automatically switch in between "**Pitch scan**" and "**Vertical scan**" according to the reading type it detects.



Horizontal placement on the longer side of the box

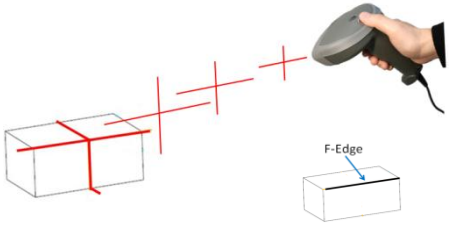
Irregular shapes and **vertical placement** on the longer side of the box

4. Patenting Guiding Aimer

How to aim and measure an object -Pitch scan

When a user triggers a VM200 to measure (e.g.) a carton, he/she can manipulate it (move closer to or far from the carton) to lead the **cross-shaped "+" laser aimer** aims at the middle area of the ***front-upper edge*** (Abbr. **F-Edge**) of the measured face of this carton.

Once the width of the Horizontal line of **"+"** is **close to or longer than** the width of F-Edge, the Vertical line of **"+"** is located around the middle area of F-Edge, the whole carton will be inside the "**field of view"** of VM200, and its dimensions are immediately measured.



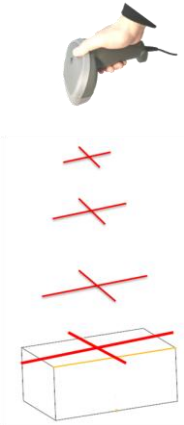
Intelligent Reading Zone Detection

With VM200's smart reading zone detection, it will alarm **continuous beep with flashing red LED** when no object is detected inside the good reading zone.

How to aim and measure an object- Vertical scan

When a user triggers a VM200 to measure (e.g.) a carton, he/she can manipulate it (move closer to or far from the carton) to lead the **cross-shaped "+" laser aimer** aims at the middle area above this carton.

Once the width of the Horizontal line of **"+"** is **close to or longer than** the width of the carton, the Vertical line of **"+"** is located around the middle area above the carton, the whole carton will be inside the "**field of view"** of VM200, and its dimensions are immediately measured.



Intelligent Reading Zone Detection

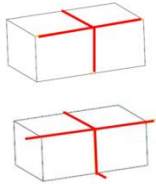
With VM200's smart reading zone detection, it will alarm **continuous beep with flashing red LED** when no object is detected inside the good reading zone.

5. Correct and Incorrect Reading

Pitch scan

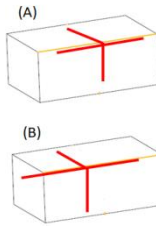
CORRECT

The width of the Horizontal line of "+" is **close to** or **longer** than the width of F-Edge on the measured face of the carton, and the Vertical line of "+" is aimed at around the middle area of the F-Edge.



INCORRECT

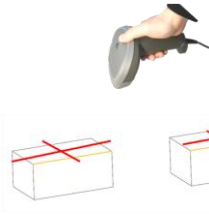
Case A: **too close to the carton,** the width of the horizontal line of "+" is far less than F-edge.
Cases B: too leftward or C: too rightward, the vertical line of "+" is **NOT** aimed at around the middle area of the F-Edge of the measured face of the carton.



Vertical scan

CORRECT

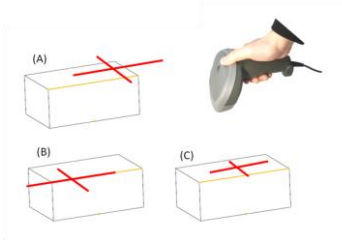
The width of the Horizontal line of **"+"** is **close to or longer than** the width of the carton, the Vertical line of **"+"** is located around the middle area above the carton



INCORRECT

Cases A: too rightward or B: too leftward, the vertical line of "+" is **NOT** aimed at around the middle area above the carton.

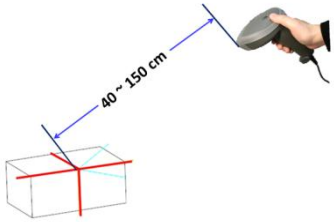
Case C: **too close to the carton,** the width of the horizontal line of "+" is far less than the carton.



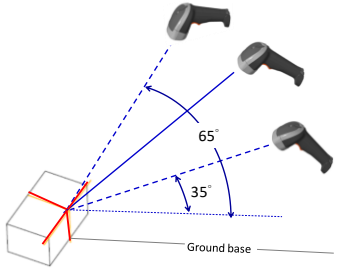
6. Reading distance and angle

Pitch scan

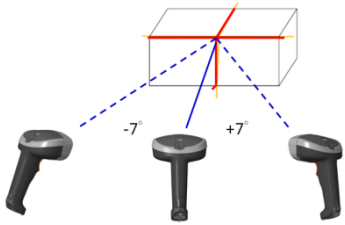
The best **reading distance** is read from 40cm~150 cm to the surface of a carton / object.



The best **pitch** (forward/backward) reading angle is 35°~65°.

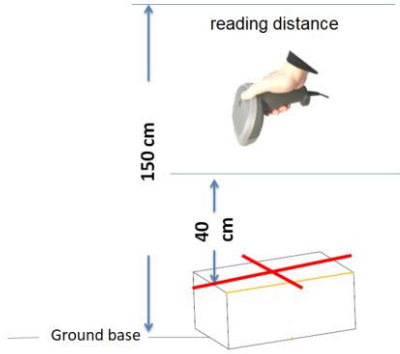


The best **skew** (leftward/rightward) reading angle is ±7°.

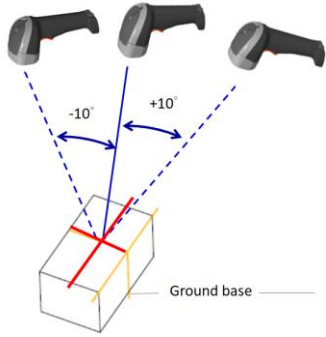


Vertical scan

The best **reading distance** is read from 40cm to the upper surface of a carton / object and within 150cm from the ground.



Keep vertical to the upper surface of the carton when measuring, and the best pitch (forward/backward) reading angle and best tilt (leftward/rightward) reading angle is ±10° from the ground.



Reading zone detection alarm setting

<Alarm Enable>

Alarm Disable

7. Indicators - LED and Beeper

General Operation

V3

Status	Indicators	
	LED	Beeper
Power on	**Green** light blinks	Be-Be-Be* 2 loops
Start the inspection and initialization while powering on	**Green** light blinks for5 seconds	-
Inspection and initialization is successful	**Green** light turns off	Be-Be-Be
Inspection and initialization is fail OR the connection between VM200 and PC Host is broken	**Red** light blinks	Be-Be-Bi-Bi looping
Measurement success	**Green** light blinks 1 time	Bi
Measurement success but the transmission fails	**Red** light blinks 2 times	Bi-Bi
Configuration is success	**Green** light blinks and Beeps Simultaneously	Bi-Bi-Bi
Touch-button switching from 2D → VM	**Green** light blinks 3 times	Be-Be-Be
Touch-button switching from VM → 2D	**Red** light blinks 2 times	Be-Be
Alarm when Dimension / Volume comparison is set as non-output	**Red** light blinks 1 time	Be
No object is deteced inside the measurement zone	**Red** light blinks	Bi-Bi-Bi-Bi looping

Remark: 'Be' means a long beep, 'Bi' a short beep

Power and Bluetooth LED and Beeper for VM200BT

V4

VM200BT Scanner Power and Bluetooth Indicator

Status	Indicators	
	LED	Beeper
Battery No Power	**Red** Blink 3 times	Bi-Bi-Bi
Battery Low Power Alarm	**Red** Blink 1 time	Be per 20 seconds
Battery Very Low Power Alarm	**Red** Blink 4 times	Bi-Bi-Bi-Bi per 10 seconds
Memory Full	**Red** Blink 2 times	Be-Be
Transmitted Succeed or save on memory	**Green** Blink 1 time	Be
Transmitted Fail	**Red** Blink 2 times	Bi-Bi
Configure Setup	**Green** Light and Buzzer Simultaneously	Bi-Bi-Bi
BT Connecting Build	**Blue** Blink 2 times per second	N/A
BT Connecting Succeed	**Blue** light 2 second	3 up-Tone
BT Connected	**Blue** Blink per Second	N/A
BT Disconnect	**Blue** Light 2 Second	3 down-Tone
Charging	**Red** Light Continue	N/A
Full Charge	**Green** Light Continue	N/A
Enter Sleep	N/A	Down-Tone

VM200BT Cradle Indicator

Status	Indicators	
	LED	Beeper
Transmitted Succeed	**Green** Blink 1 Time	N/A
BT Connected	**Blue** Blink Continue	N/A
BT Disconnect	**Blue** Blink 2 Times per Second	N/A

8. Default Data Output

The default data output is fixed length described as table, a space is in between each data column.
'<2D>' presents the barcode data,
'<3D>' presents the measurement data;
For example,
<3D> VM200 835DMT900338 CM 27.40 17.70 20.50 27.00 18.00 21.00 66.00 10206.00
<2D>7311271448044

NO.	Data Output	Bytes of data	Value is (Example)	Outputted as (presents a space)
1	Data Type identifier	4	<3D> or <2D>	<3D>
2	Model	6	VM200	VM200
3	Serial number	12	835DMT900338	835DMT900338
4	Unit of measurement	4	CM or INCH	CM INCH
5	W-Width (before rounded)	6		
6	H-Height (before rounded)	6	20.1 102.4	20.10 102.40
7	L-Length (before rounded)	6		

NO.	Data Output	Bytes of data	Value is (Example)	Outputted as (presents a space)
8	W-Width (rounded)	6	20.1 102.4	20.00 102.00
9	H-Height (rounded)	6		
10	L-Length (rounded)	6		
11	Sum of dimension	7	202	202.00
12	Volume	10	10102	10102.00
13	Dimensional weight	7		
14	Carriage Return	1		
15	Line Feed	1		

(Above examples of "Values is" are not relevant to each other, just for explanation purpose.)

Note:

1. Data values are outputted in **fixed length**.
2. The output data will be filled a space (presents a space) ahead in the Integer to comply with the defined length, filled 0 at the decimal places.
3. If a data-separator is set, the data-separator will be output in between every two consecutive data.
4. All data are concatenated as an output string and be transmitted.
5. Customer can configure the data (column no. 5~13) to be outputted and its sequence in VMSet.

9. Configuration Bar Code

Version Information

Set All Default

Interface Selection

<RS232>

USB-VCOM

Reading Mode

<Good read off>

Trigger On/Off

Select Terminator

<CR+LF>

CR

LF

None

Unit of Measurement

<CM>

INCH

Output Data

<Width Enable>

Width Disable

<Height Enable>

Height Disable

<Length Enable>

Length Disable

<Volume Enable>

Volume Disable

<Sum Dimension Enable>

Sum Dimension Disable

D-Weight Enable

<D-Weight Disable>

Setup Baud Rate

9600

19200

<115200>

2D Barcode Reader Configuration

Symbology Selection

< UPC-A ON>

UPC-A OFF

<UPC-E ON>

UPC-E OFF

<EAN-13/JAN-13/ ISBN-13 ON>

EAN-13/JAN-13/ ISBN-13 OFF

<EAN-8/JAN-8 ON>

EAN-8/JAN-8 OFF

<CODE 39 ON>

CODE 39 OFF

<CODE 128 ON>

CODE 128 OFF

<CODABAR/NW7 ON>

CODABAR/NW7 OFF

<Interleaved 25 ON>

Interleaved 25 OFF

GS1 Data Bar-
Omni directional ON

<GS1 Data Bar-
Omni directional OFF>

GS1 Data Bar-
Limited ON

<GS1 Data Bar-
Limited OFF>

GS1 Data Bar-Expanded ON

<GS1 Data Bar-Expanded OFF>

<QR Code ON>

QR Code OFF

<PDF417 ON>

PDF417 OFF

<Data Matrix ON>

Data Matrix OFF

Micro QR ON

<Micro QR OFF >

Aztec ON

<Aztec OFF>

Micro PDF417 ON
(Optional)

<Micro PDF417 OFF>

Han Xin Code ON
(Optional)

<Han Xin Code OFF>

Select All Barcodes

Send Character by ALT Method

Enable

<Disable>

9. Download the Product Support Library

You can visit Google drive to download the product support library by the below link.
https://drive.google.com/drive/folders/1qaf6tDcp7oNvMHpVYJIvSVVcB758wkDg

Or, to scan this QRCode to get the download link.

For more information, please contact our sales representatives or local distributors.

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